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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

KIM, YOUNG J

ART UNIT PAPER NUMBER

1637

DATE MAILED: 08/27/2003

17

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/734,237

Applicant(s)

ROZZELL ET AL.

Examiner

Young J. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 23, 24 and 26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 23 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☒ Other: *Sequence Homology Alignment*.

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DETAILED ACTION

This Office Action responds the Amendment received on August 11, 2003 (Paper No. 16).

Preliminary Remark

The Office acknowledges the cancellation of claims 5-22, 25, and 27-72.

Claims 1-4, 23, 24, and 26 are pending and are under prosecution therefore.

Priority

Applicants have been advised that the claimed subject matter under prosecution (synthetic nucleic acid encoding the elected species of *oxidoreductase*, and the specific embodiment of SEQ ID Numbers 77-79) did not receive the benefit of the priority of its parent application, 09/494,921, under 35 U.S.C. 120, because the claimed subject matter was not supported in the parent application. The disclosure of the parent is drawn to a methionine gamma-lyase and all of the disclosed SEQ ID Numbers are drawn to the gamma-lyase, rendering the instant claimed subject matter unsupported for priority benefit.

Therefore, the effective filing date of the claimed subject matter under prosecution is determined to be the actual filing date of the instant application, which is December 8, 2000.

Specification

Applicants have been advised that the Figures 1A-D contained nucleic acid sequence which are encompassed by the definition for nucleotide and/or amino acid sequences set for in 37 CFR 1.82(a)(1) and (a)(2), failed to comply with said rules. Specifically, the figures recite nucleic acid sequences which are not described by their SEQ ID Numbers. Although Applicants

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have submitted new sets of drawings in accordance with the PTO-948, Applicants have not amended the drawings or the Description of the Drawings to recite the SEQ ID Numbers which correspond to the nucleic acids disclosed in the Figures.

Correction is required.

The objection to the specification for making reference to an URL on the Internet, made in the Office Action mailed on February 6, 2003 is withdrawn in view of the Amendment received on August 11, 2003, amending the specification to remove the reference.

Claim Objections

The objection of claims 47-49 made in the Office Action mailed on February 6, 2003 is withdrawn in view of the Amendment received on August 11, 2003, canceling the claims.

Claim Rejections - 35 USC § 112 – second paragraph

The rejection of claims 1-12, 14, 15, 23-29, and 47 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter, made in the Office Action mailed on February 6, 2003 is withdrawn in view of the Amendment received on August 11, 2003.

Rejection – New Grounds, Necessitated by Amendment

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claims 1-4, 23, and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims have been amended to include the elected SEQ ID Numbers. Therefore, the claims are now drawn to "an synthetic nucleic acid comprising a non-naturally occurring polymer of nucleic acid that is at least 90% (or 95% or 97% or 99%) homologous to a sequence selected from the group consisting of SEQ ID NO. 77, SEQ ID NO. 78 and SEQ ID NO. 79." According to the paper copy of the Sequence Listing, the polymer of SEQ ID Numbers 77 and 79 are amino acid sequences. Therefore, it becomes unclear how a nucleic acid sequence can be compared to an amino acid sequence with the recited degree of homology. For the purpose of prosecution the claim has been interpreted as a synthetic nucleic acid comprising a non-naturally occurring polymer of nucleic acid whose encoded protein is at least 90% homologous to a sequence selected from the group consisting of SEQ ID Number 77 and 79. Also, Applicants are advised that SEQ ID Number 78 is a nucleic acid sequence. Therefore, for the purpose of prosecution, the this embodiment has been interpreted as being drawn to a synthetic nucleic acid comprising a non-naturally occurring polymer of nucleic acid that is at least 90% homologous to a sequence of the polymer of SEQ ID Number 78.

Claim Rejections - 35 USC § 112 – first paragraph

The rejection of claims 1-10, 27-31, and 44-49 under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the

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application was filed, had possession of the claimed invention, made in the Office Action mailed on February 6, 2003 is withdrawn in view of the Amendment received on August 11, 2003, canceling claims 5-10, 27-31, and 44-49, and amending claims 1-4 to include SEQ ID Numbers.

The rejection of claims 30-33, 35, and 36 under 35 U.S.C. 112, first paragraph, because the specification while being enabling for a synthetic nucleic acid sequence having a free energy of folding that is more positive than its naturally occurring nucleic acid sequence, does not reasonably provide enablement for the encompassed embodiment of a synthetic nucleic acid sequence having a more negative free energy of folding, made in the Office Action mailed on February 6, 2003, is withdrawn in view of the Amendment received on August 11, 2003, canceling the claims.

Claim Rejections - 35 USC § 102

The rejection of claims 1-12, 14, 15, 27-33, 35, 36, and 44-49 under 35 U.S.C. 102(e) as being anticipated by Delagrave et al. (US2001/0051369 A1, published December 13, 2001, priority February 25, 2000), made in the Office Action mailed on February 6, 2003 is withdrawn in view of the Amendment received on August 11, 2003, amending claims 1-4 to include SEQ ID Numbers and canceling claims 5-12, 14, 15, 27-33, 35, 36, and 44-49.

New Grounds - Necessitated by Amendment

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Delagrave et al. (U.S. Patent No. 6,498,026 B1, issued December 24, 2002, priority February 25, 2000).

The instant rejection is predicated by the Examiner's comment regarding on priority.

Delagrave et al. disclose a polypeptide sequence of SEQ ID Number 2 which has 94.4% and 94.2% overall homology to the claimed polypeptide of SEQ ID Number 77 and 79 respectively.

Therefore, Delagrave et al. anticipate the invention as claimed.

Claim Rejections - 35 USC § 103

The rejection of claims 1-10, 27-31, and 44-49 under 35 U.S.C. 103(a) as being unpatentable over SantaLucia (Proc. Natl. Acad. Sci., USA, 1998, vol. 95, pages 1460-1465), made in the Office Action mailed on February 6, 2003 is withdrawn in view of the Amendment received on August 11, 2003, amending claims 1-4 to include SEQ ID Numbers and canceling claims 5-12, 14, 15, 27-33, 35, 36, and 44-49.

Conclusion

Claims 1-4, 23, and 24 are rejected.

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Claim 26 is allowed as prior art does not disclose or suggest the polynucleotide of SEQ ID Number 78 which encodes a synthetic Galactose Oxidase which has higher stability than its native polynucleotide sequence (page 34, specification).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Inquiries

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Young J. Kim whose telephone number is (703) 308-9348. The Examiner can normally be reached from 8:30 a.m. to 7:00 p.m. Monday through Thursday. If attempts to reach the Examiner by telephone are unsuccessful, the Primary Examiner in charge of the prosecution, Dr. Kenneth Horlick, can be reached at (703)-308-3905. If the attempts to reach the above Examiners are unsuccessful, the Examiner's supervisor, Gary Benzion, can be reached at (703) 308-1119. Papers related to this application may be submitted to Art Unit 1637 by facsimile transmission. The faxing of such papers must conform with the notice published in the Official Gazette, 1156 OG 61 (November 16, 1993) and 1157 OG 94 (December 28, 1993) (see 37 CFR 1.6(d)). NOTE: If applicant does submit a paper by FAX, the original copy should be retained by applicant or applicant's representative. NO DUPLICATE COPIES SHOULD BE SUBMITTED, so as to avoid the processing of duplicate papers in the Office. All official documents must be sent to the Official Tech Center Fax number: (703) 872-9306. For Unofficial documents,

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faxes can be sent directly to the Examiner at (703) 746-3172. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0196.

Young J. Kim

8/24/03


KENNETH R. HORLICK, PH.D
PRIMARY EXAMINER

8/25/03